



KAISER • HILL  
COMPANY

## INTEROFFICE MEMORANDUM

DATE: May 15, 1997  
TO: J. K. Hopkins, RMRS Environmental Restoration Projects, T893B, X4974  
FROM: S. M. Nesta, Compliance and Performance Assurance, National Environmental Policy Act, T130C, X6386 *SMNest*  
SUBJECT: NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) COMPLIANCE FOR THE MOUND SITE GROUNDWATER REMEDIATION DECISION DOCUMENT - SMN-110-97

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Attached is our analysis of the potential environmental issues associated with remediation of the Mound Site groundwater plume. This analysis responds to the requirements of the Rocky Flats Cleanup Agreement (1995) that Site decision documents include NEPA values. NEPA compliance for the Decision Document will be assured if the attached analysis is incorporated verbatim as section 5 of the Document.

If you wish to summarize the attached material, however, the summary must identify each of the environmental issues and make positive statements about how potential impacts will be avoided wherever possible. We look forward to the opportunity to circulate the draft Decision Document for review by K-H's Compliance and Performance Assurance group around the first week of June.

Please do not hesitate to contact me at X6386 or Bill Moore of Labat Anderson/NEPA at X8132 if you have any questions or need additional information.

Attachment: As Stated

cc:  
K. North, K-H  
R. C. Nininger, K-H  
K. M. Lavorato, K-H  
A. L. Primrose, RMRS  
file

ADMIN RECORD

1113-B-00020  
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## **5.0 ENVIRONMENTAL ISSUES**

Incorporation of NEPA values into Site decision documents is mandated in the Rocky Flats Cleanup Agreement (RFCA) (§95). Decision documents tied to Interim Measures/Interim Remedial Actions, such as this one, are included in that requirement by RFCA (§118). Accordingly, this section provides a description of potential environmental impacts which may be associated with the remediation of groundwater associated with the Mound site.

### **5.1 Soils and Geology**

The collection system could be as long as 320 feet. Excavation for installation of the collection system may extend to claystone. Minor impacts to the claystone could occur for the full length and breadth (up to approximately four feet) of the collection system.

Soils will be disturbed for the full length and breadth of the excavation; the natural soil profile will be eliminated and replaced by a more homogeneous soil mixture when the excavated material is backfilled in the trench. The possibility that backfilling of excavated soil could affect the ability of the disturbed area to support revegetation will be mitigated by use of topsoil, imported if necessary and approved by Site ecologists in accordance with Site revegetation procedures.

It is possible that stormwater could carry off excavated or in-place soil during the project. However, a silt fence will be emplaced downgradient of the work site to prevent such events during construction and revegetation will provide erosion control after installation is complete.

### **5.2 Air**

The project poses little potential for release of either hazardous or radiologic contaminants to the air during excavation, staging, storage, and backfilling of soil based on the low levels of contaminants expected to be present in the soil.

The Kaiser-Hill Air Quality Management group will analyze project data to estimate quantities of contaminants that could be released during construction and operation of the project. The results of this analysis will be used not only to assure compliance with applicable air quality regulations but, together with other information, to identify appropriate measures to take to protect the health of workers, such as wearing appropriate personal protective equipment. Such measures, if necessary, will be identified in the project's Health and Safety Plan. In addition, appropriate dust

suppression measures will be implemented to minimize release of particulate matter. Because all regulatory requirements and health-based standards will be complied with, no adverse effects are expected to air quality from project-related air emissions.

No radioactive air emissions are expected during either construction or operation of the project.

### 5.3 Water

The objective of the project is to improve water quality by removing contaminants from groundwater. Because there would be no change in the quantity of water discharged in the immediate area (only a small change in the discharge point), there are not expected to be changes in water quantity-related indicators.

The barrier will stop groundwater flow for its length for the life of the project. Because of the small water quantities involved and the short distance between the barrier and South Walnut Creek (between 10 and 120 feet) where the water would surface normally, effects to the groundwater system are expected to be minimal.

As indicated in section 5.1, silt fencing will be installed downgradient of the work area to minimize the possibility of surface water carrying potentially-contaminated or sediment-bearing soil off the work site. Because of the silt fence and use of the pump and treatment system used to dewater the excavation, stormwater runoff from the project is not expected to have adverse impacts.

Discharge of the treated water to South Walnut Creek is expected to improve water quality as water entering the stream will have significantly less contamination than at present.

### 5.4 Human Health

Radionuclides (uranium) exist in only one water sample. That sampling result is believed to be an anomaly. Otherwise, sampling data do not show radionuclides above background levels. Consequently, radionuclides are not expected to be encountered and so should not present a issue for human health.

Other possible effects to human health include industrial accidents that can occur at any construction site where there is excavation using heavy equipment. The project's Health and Safety Plan and Field Implementation Plan will describe the steps to be taken to make the project as safe as possible for workers. (See also section 5.13, Environmental Effects of Accidents.)

## 5.5 Flora and Fauna

The project will adversely effect up to about 15,500 sq. ft., or about one-third of an acre, of vegetation during construction of the collection and treatment facilities. This impact will be temporary since disturbed areas will be revegetated as directed by Site ecologists. None of the area to be disturbed by the remediation activities supports or provides habitat for threatened or endangered plant or animal species, or species of concern, nor does it contain unique or unusual biological resources. The area is, however, upstream of a known population of Preble's meadow jumping mice. Use of silt fencing and Site procedures related to excavation are expected to minimize the possibility of adverse downstream effects. As a result, no impacts on downstream flora or fauna are expected.

The remedial activities will remove groundwater from the area immediately down-gradient of the barrier for the life of the project and potentially dry up a small wetland fed, at least in part, by seep SW059. It is also possible that construction activities could destroy the wetland. The wetland is approximately 100 sq. ft. Mitigation of this adverse effect will, if necessary, be negotiated with the Environmental Protection Agency. Mitigation, if required, could take the form of a credit against the Site's Wetland Mitigation Bank. The project will not proceed until wetlands mitigation, if necessary, has been approved.

Due to sparse vegetative cover, its proximity to the industrial area, and its location inside the perimeter fence, the project site is used only incidently by large mammals such as the deer and coyotes that frequent the area. Rabbits, voles, mice, and other smaller mammals as well as snakes and other reptiles would be expected to forage around or inhabit the project site. No deep-burrowing mammals (such as prairie dogs) inhabit the area. Use of the area for foraging will necessarily be interrupted during remediation, but would be expected to resume after revegetation activities are complete. It is expected that, at the conclusion of revegetation, the project site will regain its natural appearance with regard to both land contour and vegetative cover. Surveys of the area necessary for compliance with the Migratory Bird Treaty Act will be conducted by Site ecologists prior to beginning field activities.

DOE will, as required by the Endangered Species Act, confer with the U. S. Fish and Wildlife Service to confirm that the mitigation steps described above are sufficient.

## 5.6 Historic Resources

No buildings or other historic or potentially historic items are expected to be encountered, disturbed, or affected by Mound site groundwater remediation activities.

## 5.7 Visual Resources

The remediation activities would result in temporary, moderate visual impacts while the project is in progress. Excavation, stockpiling of dirt and debris, and the presence of excavation equipment would change the immediate site into a construction site rather than a "natural" area. This appearance would not, however, be in sharp contrast to the industrial buildings and activities to the west. Furthermore, construction activities are expected to last less than a month, after which, as indicated above, the area would be graded and revegetated to have an appearance similar to the surrounding area.

## 5.8 Noise

Remediation activities will result in locally-increased noise levels typically associated with other construction projects: heavy equipment operation, other machinery-related noise, etc. Such impacts will be minor and temporary, consistent with other noise levels at the Site, not noticeable more than a few hundred yards from the area, and confined to the Site. Appropriate hearing protection will be supplied for project personnel if called for in the project's Health and Safety Plan.

## 5.9 Cumulative Effects

In general, the adverse effects of Mound Site groundwater remediation activities are expected to be minimal and temporary while the beneficial effects (removal of contamination) will be long-term. Remediation of the Mound groundwater is part of the overall mission to clean up the Site and make it safe for future uses. The cumulative effects of this broader, Site-wide effort are described in the *Cumulative Impacts Document*, currently in preparation by DOE. That document describes the short- and long-term effects to a variety of resources from the cleanup mission, and is included in this decision document by reference.

## 5.10 Unavoidable Adverse Effects

Some temporary, adverse effects will necessarily occur because of the remediation activities. Some vegetation will be destroyed; soil conditions in excavated areas will be changed; noise levels will increase slightly and temporarily; some very minor quantities of air pollutants will be released to the atmosphere; fuels and other resources will be consumed; and some small mammals or reptiles may be temporarily dislocated.

#### 5.11 Short-term Uses Versus Long-term Productivity

The project area is currently vacant, *i.e.*, there is no surface use of the land. Remedial activities will improve water quality, and will open the surface area to the potential for other, possibly more productive, uses after Site closure activities are completed.

Water that is normally collected at SW059 and treated would not be collected during the construction period. If water collects in the excavation, it will be collected and treated. Because of the small quantity of water normally collected at SW059, and the very low concentrations of contaminants, environmental effects of two to four weeks of not collecting are expected to be negligible.

#### 5.12 Irreversible and Irretrievable Commitments of Resources

Remediation will irretrievably consume fuels, small quantities of certain materials used in the treatment of water, money and labor. None of these resources will be consumed in quantities that are significant relative to their consumption elsewhere across the Site.

#### 5.13 Environmental Effects of Accidents

The project carries only that risk of accidents that would be associated with other, similar construction projects. Radionuclides and hazardous materials are expected in quantities below those that could result in accidents and lead to adverse environmental consequences during construction or operation of the project. A project-specific Health and Safety Plan and Activity Hazardous Analysis will be prepared to identify and control hazards that may be encountered. Implementation of the requirements of these documents will minimize the possibility, and potential consequences, of accidents.